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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,331	02/08/2002	Sohel Anwar	201-0644 (VGT 0270 PA)	6566
27256	7590	06/30/2004	EXAMINER	
ARTZ & ARTZ, P.C. 28333 TELEGRAPH RD. SUITE 250 SOUTHFIELD, MI 48034			KRAMER, DEVON C	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/071,331

Applicant(s)

ANWAR, SOHEL

Examiner

Devon C Kramer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 4, 8 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 9-14 and 16-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1) The amendment filed November 25, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Applicant has changed most of the equations present in the original specification. These changes appear not to be obvious modifications of the equations or substitutions for equivalent variables.

Applicant is required to cancel the new matter in the reply to this Office Action.

2) The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Applicant does not teach the definition of "a saturation function of a threshold slip."

Claim Rejections - 35 USC § 112

3) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4) Claims 1-3, 5-7, 9-14, 16-27 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in

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the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The amendment to the claims and the newly added claims are directed to a saturation function which is not fully supported or clear by reading the specification. If "SAT" is the saturation function then it would be a new matter rejection because of the amendment to the specification.

Claim Rejections - 35 USC § 103

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) Claims 1-3, 5-7, 9-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naito et al (5657229) in view of Grote et al (6293632).

In reference to claims 1, 7 and 14, Naito et al provides a control system for an automotive vehicle having a wheel and wheel brake comprising: a wheel speed sensor (25a) generating a rotational speed signal; and a controller (37) coupled to the wheel speed sensor, said controller determining a vehicle speed (25), calculating wheel slip based upon the vehicle speed and the rotational speed, estimating a normal force on the wheel (abstract), calculating a modified brake torque signal in response to the wheel slip, coefficient of friction and the normal force, and actuating the wheel brake in response to the modified brake torque signal. Though Naito et al teaches using the

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coefficient of friction in calculating the modified brake torque, he fails to teach using an approximated friction slope curve, friction gradient, or change of friction over time.

Grote et al teaches a calculation of a torque where a variable in the equation is an approximated friction slope curve. (Col 10 lines 15-20)

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the calculation of modified brake torque of Naito et al using a friction slope curve as taught by Grote et al merely because using a slope curve creates more stability and can react more quickly to vehicle changes and conditions.

In reference to claims 2-3, 13 and 17, Naito et al provides a control system for an automotive comprising a vehicle speed sensor, said controller determining vehicle speed from the vehicle speed sensor (col 15 lines 8-17), wherein the vehicle speed sensor comprises plurality of wheel speed sensors.

In reference to claims 5, 6, 9, 10 and 16, Naito et al provides a control system for an automotive vehicle wherein said controller measures a wheel deceleration (32, figure 3) from the wheel speed sensor; when the wheel deceleration is above a threshold applying the modified torque. Please note that when ABS system controllers do not detect excessive slip or deceleration, a normal braking force is applied which is proportional to that of the pedal force by an operator.

In reference to claims 11-12, Naito et al provides a control system for an automotive vehicle wherein when the vehicle speed is above a speed threshold, performing calculating wheel slip based upon the vehicle speed and the rotational

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speed, estimating a normal force on the wheel, calculating a modified brake torque signal in response to the wheel slip and the normal[^] force, and actuating the wheel brake in response to the modified brake torque signal when a wheel deceleration is below a threshold. (Figure 5)

Response to Arguments

7) Applicant's arguments filed 4/27/04 have been fully considered but they are not persuasive. Applicant argues that the introduction of new matter was to correct obvious errors in the specification. The MPEP 2163 states, "While there is no in haec verba requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure. An amendment to correct an obvious error does not constitute new matter where one skilled in the art would not only recognize the existence of the error in the specification, but also recognize the appropriate correction." Please note that applicant's correction do not all constitute an obvious error, for example, equation 31 changed $S=(K_{th}-K)$ to $S=(K_{th}-K_i)$. K and K_i are not obvious variants, these different values change the scope of the equation.

Applicant further argues that the amendment to the claims adding "a saturation function of a threshold slip and the actual wheel slip" puts the case in condition for allowance. Since there is no explanation in the specification for this "saturation function" and since this addition is based upon new matter in the specification, the current rejection stands.

Conclusion

8) THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

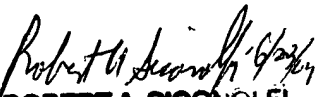
9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK


ROBERT A. SICONOLFI
PATENT EXAMINER